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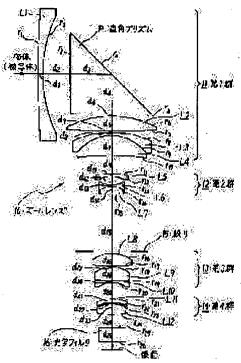
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(54) **ZOOM LENS**

(57) Abstract:

PURPOSE: To obtain a zoom lens capable of enhancing the degree of freedom in design without making a video camera thick or slender and making the diameter of a front lens smaller though the angle of view at a wide-angle end is wide. CONSTITUTION: This zoom lens 10 is constituted by arranging a 1st group 11 having positive refractive power, a 2nd group 12 having negative refractive power, a diaphragm 15, a 3rd group 13 having the positive refractive power, and a 4th group 14 having the positive refractive power in order from an object side. The 1st and the 2nd groups 11 and 12 constitute a variable power system. The 1st group 11 is constituted by arranging a concave lens L1, a rectangular prism P, a convex lens L2, and a bonded lens of a concave lens L3 and a convex lens L4 in order from the object side. Since the optical axis of a light beam from the object is bent at a right angle by the prism P, the length in an incident optical axis direction is drastically shortened. By allowing the prism P to intervene, a distance between the concave lens L1 and the group of the lenses L2 to L4 becomes long and the rear side



principal point of the 1st group 11 are brought near to the rear, so that the focal distance of the 1st group 11 is shortened, which is advantageous to attain the wide angle.

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(54) 【発明の名称】 ズームレンズ

(57)【要約】

ンの自由度を高めることができ、また広角端の画角が広い割には前玉径を小さくできるズームレンズを得る。 【構成】物体側より順に、正の屈折力を有する第1群11と、負の屈折力を有する第2群12と、絞り15と、正の屈折力を有する第3群13と、正の屈折力を有する第4群14とを配置してズームレンズ10を構成する。第1群11と第2群12は変倍系を構成する。凹レンズL1、直角プリズムP、凸レンズL2、凹レンズL3及び凸レンズL4の接合レンズを物体側より順に配して第1群11を構成する。物体からの光線の光軸は直角プリズムPで直角に曲げられるため、入射光軸方向の長さが大幅に短くなる。直角プリズムPの介在で凹レンズL1とL2~L4のレンズ群の間隔が広がって第1群11の後側主点を後ろに寄せる構成となり、第1群11の焦点距離を短くできて広角化に有利となる。

【目的】ビデオカメラを分厚くも細長くもせずにデザイ

実施例の構成

